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ABSTRACT

Third in a series investigating the effects of the Detroit Public Schools' Extended Day Kindergarten (EDK) Program on students as they progress through elementary school, this report presents longitudinal data on randomly selected experimental (EDK) and control (traditional kindergarten) groups who were in kindergarten during 1983-84, 1984-85, and 1985-86. These phase A, B, and C students were in grades 3, 2, and 1, respectively, during the 1986-87 school year. Achievement data were gathered from reading and mathematics test results and from final report cards. Also investigated were: days absent, compensatory education service received, and retention in grade. Results of grade 1 report cards and achievement tests administered to phase A, B, and C students indicated no differences between EDK and traditional groups. Phase A EDK students scored significantly higher on grade 2 reading and mathematics tests and had significantly higher report card marks in language arts and mathematics than did the non-EDK group. Third grade data available for the phase A group in 1986-87 revealed that the EDK group continued to significantly outperform the control group on achievement tests. No difference in language arts report card marks were found in grade 3, but the EDK group had significantly higher third grade marks in mathematics. Compared to controls, EDK students had significantly better attendance in third grade. (RH)

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Extended Day Kindergarten Program Longitudinal Study

1983-84 through 1986-87

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PS 017479

Extended Day Kindergarten Program
Longitudinal Study

1983-84 through 1986-87

(Executive Summary)

Purpose and Features of the Program

The Detroit Public Schools instituted its first Extended Day Kindergarten (EDK) program during the 1979-80 school year in four Title I (Chapter 1 as of July 1, 1982), Region 5 schools. In 1983-84 the EDK program had been expanded to twenty-five Chapter 1 schools. The program continued to expand and in 1986-87 eighty-seven schools provided EDK services to over 2,600 students.

The purpose of EDK was to serve those children "least ready" for kindergarten as indicated by the results of the Kindergarten Inventory of Developmental Skills (KIDS). EDK participants were provided additional opportunities to attain readiness by attending kindergarten for a full school day, four days a week. The fifth day was reserved for inservicing teachers, school service assistants, and parents.

Evaluation Methodology

The main purpose of the EDK longitudinal study is to follow random sample groups of students through elementary school. Groups of EDK participants are compared to groups of Chapter 1 traditional kindergarten students. Students who were served in the traditional Chapter 1 kindergarten program attended school five half days per week, but were given additional services from a school service assistant and/or a Chapter 1 teacher. The traditional Chapter 1 students were also selected for services on the basis of the Kindergarten Inventory of Developmental Skills (KIDS) test results.

The study includes comparisons of EDK (experimental) and traditional Chapter 1 kindergarten (control) sample groups' reading and mathematics test results, final report card marks in language arts and mathematics, attendance, compensatory education service, and retention. The sample groups will continue to be compared through grade five.

The longitudinal study will eventually include five phases, Phases A - E. Each phase will consist of an experimental and control group randomly selected in kindergarten. Presented below is a chart illustrating the five phases of the longitudinal study.

Five Phases of the Extended Day Kindergarten
Longitudinal Study

Phase	School Year and Grade					
	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89
A	Kindergarten	Primary 1 Kindergarten	Primary 2 Primary 1 Kindergarten	Grade 3 Primary 2 Primary 1 Kindergarten	Grade 4 Grade 3 Primary 2 Primary 1 Kindergarten	Grade 5 Grade 4 Grade 3 Primary 2 Primary 1

Included in this report are the findings for students selected in kindergarten for Phases A, B, and C. These students were in Grade 3, Primary 2, and Primary 1 respectively during the 1986-87 school year.

Findings, Phase A Groups, Grade 3

The Extended Day Kindergarten group from Phase A achieved at a higher level than the traditional kindergarten group on both reading and mathematics achievement tests.

The EDK group also had significantly higher report card marks in mathematics than the traditional kindergarten students. There was no difference in the language arts report card marks of the groups.

The attendance of the EDK group was significantly better than that of the comparison group.

More students from the traditional kindergarten group were retained in Primary 2 than from the EDK group.

Finally, students from the EDK group were selected for compensatory education with less frequency than students from the traditional kindergarten group.

Findings, Phase B Groups, Primary 2

Analysis of data for the Phase B groups indicated there were no differences between the EDK group and the traditional kindergarten group as measured by test scores, report card marks, or attendance.

Fewer students from the EDK group were retained in Primary 1 than from the traditional group.

A smaller percent of EDK students received compensatory education service in Primary 2 than did the traditional group.

Findings, Phase C Groups, Primary 1

Results of analyses of test scores, report card marks, and attendance for the EDK and traditional kindergarten students in Phase C indicated that no differences existed between the groups in Primary 1.

One student from the EDK group was retained in kindergarten while no students from the traditional kindergarten group were retained.

More students from the EDK group were selected for compensatory education service in Primary 1 than from the traditional kindergarten group.

The summary chart, which follows, illustrates that only for the Phase A groups have any significant differences been shown after kindergarten.

Recommendations

It is recommended that this study be continued. Even though all of the Extended Day Kindergarten groups, from all phases, have performed significantly better than the traditional kindergarten groups on kindergarten tests, only the Phase A EDK group has shown significantly better achievement and attendance after kindergarten. It is possible that if the study is continued more significant differences between the groups from the other phases will become apparent as the students reach higher grades.

Retention should continue to be included in the study. For the Phase A groups, by grade 3, twenty-four percent of the EDK sample students had been retained while twenty-six percent of the traditional sample students were retained. These are high percentages for both groups. In the Phase B groups, by Primary 2, ten percent of the traditional kindergarten groups and five percent of the EDK group had been retained.

Additionally, more of the traditional kindergarten students have left the school system than the EDK students. This factor should also continue to be observed to determine if this trend continues.

Finally, in general the EDK students appear to be selected for compensatory education service with less frequency after kindergarten than the traditional kindergarten students. This trend should also continue to be monitored.

Extended Day Kindergarten - Longitudinal Study
Summary Table

Grade	Variables	Phase A Kindergarten 1983-84		Phase B Kindergarten 1984-85		Phase C Kindergarten 1985-86		Phase D Kindergarten 1986-87	
		EDK N=50	NonEDK N=50	EDK N=40	NonEDK N=40	EDK N=60	NonEDK N=60	EDK N=60	NonEDK N=60
K	CAT - 10 Pre-Reading	100.1*	83.1	94.4*	84.9	95.0	91.6	18.0*	16.9
	CAT - 10 Mathematics	17.8*	13.5	16.5	15.1	17.7*	15.0	15.1*	13.3
1	CAT - 11 Reading	11.9	10.6	11.8	11.5	11.6	11.8		
	CAT - 11 Mathematics	43.6	41.0	43.3	44.3	42.2	43.4		
	Report Card Marks Language Arts	2.09	1.76	1.95	2.07	2.50	2.31		
	Report Card Marks Mathematics	2.19	1.80	1.72	1.97	1.64	1.69		
	Attendance Days Absent	16.98	18.76	16.98	16.44	18.28	15.42		
	Number Retained-K	0	4	0	1	1	0		
	Number and % of Group Selected for Compensatory Ed.	28 (57%) N=49	31 (74%) N=42	20 (53%) N=38	22 (56%) N=39	26 (49%) N=53	25 (45%) N=56		
2	CAT - 12 Reading	15.31*	12.16	12.06	12.67				
	CAT - 12 Mathematics	54.07*	49.11	51.12	51.10				
	Report Card Marks Language Arts	2.44*	1.86	1.96	1.60				
	Report Card Marks Mathematics	2.47*	1.62	1.48	1.57				
	Attendance Days Absent	12.20	16.38	13.84	14.75				
	Number Retained in Primary 1	7	3	3	5				
	Number and % of Group Selected for Compensatory Ed.	22 (54%) N=41	22 (61%) N=36	13 (39%) N=33	12 (43%) N=28				

* Significant Difference

Extended Day Kindergarten - Longitudinal Study
Summary Table (Cont'd)

Grade	Variables	Phase A Kindergarten 1983-84 EDK N=50	Phase A Kindergarten 1983-84 NonEDK N=50	Phase B Kindergarten 1984-85 EDK N=40	Phase B Kindergarten 1984-85 NonEDK N=40	Phase C Kindergarten 1985-86 EDK N=60	Phase C Kindergarten 1985-86 NonEDK N=60	Phase D Kindergarten 1986-87 EDK N=60	Phase D Kindergarten 1986-87 NonEDK N=60
3	CAT - 13 Reading	20.25*	17.75						
	CAT - 13 Mathematics	60.48*	54.75						
	Report Card Marks Language Arts	2.14	1.72						
	Report Card Marks Mathematics	2.20*	1.51						
	Attendance Days Absent	9.77*	18.00						
	Number Retained in Primary 2	5	6						
	Number and % of Group Selected for Compensatory Ed.	9 (26%) N=35	11 (38%) N=29						

* Significant Difference

Extended Day Kindergarten
Longitudinal Study

Background

The main purpose of the Extended Day Kindergarten longitudinal study is to investigate the effects of the program on students as they progress through elementary school. This report is the third in a series studying the effects of the Detroit Public Schools Extended Day Kindergarten program. The first report was produced in March, 1986.

The study involves following randomly selected groups of students who were provided with the EDK experiences. Included for comparison purposes are randomly selected groups of students who participated in a traditional kindergarten program and received Chapter 1 services. This report presents data on the experimental (EDK) and control (traditional kindergarten) groups selected for Phase A, B, and C of the study.

The study will eventually involve five phases. Each phase will include an experimental and control group. Presented below is a chart that illustrates the five phases of the longitudinal study.

Five Phases of the Extended Day Kindergarten
Longitudinal Study

Phase	School Year and Grade					
	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89
A	Kindergarten	Primary 1	Primary 2	Grade 3	Grade 4	Grade 5
B		Kindergarten	Primary 1	Primary 2	Grade 3	Grade 4
C			Kindergarten	Primary 1	Primary 2	Grade 3
D				Kindergarten	Primary 1	Primary 2
E					Kindergarten	Primary 1

Included in this report are findings for students selected in kindergarten for Phases A, B, and C. These students were in Grade 3, Primary 2, and Primary 1 respectively during the 1986-87 school year.

Achievement data for the students were obtained from two sources:

1. Assessment of Basic Curriculum Skills (ABCS) reading and mathematics test results equated to the California Achievement Test (CAT). Test results were obtained from the April, 1987 administration of the ABCS.

2. Final report card marks in language arts and mathematics were obtained from June, 1987 report cards. Report card marks were quantified and means were calculated for both subject areas. Report card marks and the scale follow:

A or O (Outstanding)	= 4.0
B or S+ (Satisfactory Plus)	= 3.0
C or S (Satisfactory)	= 2.0
D or S- (Satisfactory Minus)	= 1.0
E or N (Needs to Improve)	= 0.0

Three other variables were also included for the sample groups. They included the following:

1. Number of days absent as indicated on the report cards in June, 1987.

2. Compensatory education service received by the experimental and control group students during the 1986-87 school year.

3. A retention factor which is the number of students not promoted to the next grade for the 1986-87 school year.

Differences in the number of students in the Phase A, B, and C groups, as presented in the following tables, are the result of missing data, e.g., students not tested, attendance and/or report card marks not submitted by the school.

Findings, Phase A Experimental and Control Groups

Phase A students were enrolled in kindergarten during the 1983-84 school year. Reported in Tables 1 and 2 are the 1986-87 third grade test results of the Phase A experimental and control groups. A t-test applied to the test scores indicated that the experimental (EDK) group scored significantly higher than the control group (traditional kindergarten) in both reading and mathematics.

Table 1

Comparison of Means of Raw Scores in Reading
California Achievement Tests, Level 13, Form C

Phase A Groups, Grade 3

Group	N	Mean	S.D.	t-value
Experimental	35	20.1	4.60	1.92*
Control	28	17.8	5.73	

*Significant at $p < .05$

Table 2

Comparison of Means of Raw Scores in Mathematics
California Achievement Tests, Level 13, Form C

Phase A Groups, Grade 3

Group	N	Mean	S.D.	t-value
Experimental	35	60.5	13.27	1.73*
Control	28	54.8	12.80	

*Significant at $p < .05$

Comparison of report card marks for the Phase A groups are presented in Table 3 and 4. Results indicate that the experimental students received significantly higher report card marks in mathematics at the third grade level than the control group. There was no difference in the language arts report card mars of the groups.

Table 3

Comparison of Means of Language Arts
Report Card Marks

Phase A Groups, Grade 3

Group	N	Mean	S.D.	t-value
Experimental	35	2.1	2.51	.67
Control	29	1.7	2.42	

Table 4

Comparison of Means of Mathematics
Report Card Marks

Phase A Groups, Grade 3

Group	N	Mean	S.D.	t-value
Experimental	35	2.2	1.13	2.66*
Control	29	1.5	.87	

*Significant at $p < .01$

Third grade attendance data for the Phase A groups are presented in Table 5. The findings indicate that there was a significant difference in the attendance of the two groups in favor of the experimental group.

Table 5

Comparison of Means of Number of Days Absent In Grade 3

Phase A

Group	N	Mean	S.D.	t-value
Experimental	35	9.77	8.24	-2.99*
Control	29	18.00	13.55	

*Significant at $p < .01$

Table 6 presents the number and percent of students from the Phase A groups who were absent 27 or more days, where twenty-seven days represents 15% of the official 181-day school year. Based upon the data, it can be seen that fewer experimental students were absent 15 percent or more of the school year.

Table 6

Number and Percent of Phase A Students Absent 27 or More Days in the 1986-87 School Year

Group	Number of Students in the Group	Number of Students Absent 27 Days or More	Percent of Group
Experimental	35	1	3%
Control	29	8	28

Presented in Table 7 are the data for the Phase A groups related to the retention factor. Included are those students who were not promoted to the third grade in the 1986-87 school year. The experimental group had five students retained in Primary 2 while the control group had six students retained. One experimental student was placed in special education.

Table 7

Number and Percent of Phase A Students Retained In Primary 2 in the 1986-87 School Year

Group	Number of Students in the Group	Number of Students Retained	Percent of Group
Experimental	40	5	12.5%
Control	35	6	17.1

Reported in Table 8 are the numbers and percents of students in the Phase A groups who received compensatory education service during the 1986-87 school year. The experimental students were selected to receive compensatory education service with less frequency than the control group.

Table 8

Comparison of the Number and Percent of Students in Phase A Receiving Compensatory Education Services in the 1986-87 School Year

Grade 3

Group	N	Chapter 1 Service		Artcile 3 Service		Art. 3 & Ch. 1 Service		No Comp. Ed. Service	
		f	%	f	%	f	%	f	%
Experimental	35	2	6%	1	3%	6	17%	26	74%
Control	29	2	6	3	10	6	21	18	62

The original sample size of the Phase A groups was 50 students. Presented in Table 9 are the number and percent of students not included in the longitudinal study and the reason. More students from the control group than from the experimental group have been retained.

Table 9

Number and Percent of Sample Students Not Included in the 1986-87 Phase A Groups

Reason	Experimental f	Experimental %	Control f	Control %
Retained	12	24%	13	26%
Left School System	1	2	8	16
Special Education	1	2		
Deceased	1	2		
Total	15	30	21	42

Findings, Phase B Experimental and Control Groups

Phase B students were enrolled in kindergarten during the 1984-85 school year. Reported in Tables 10 and 11 are the 1986-87 Primary 2 test results of the Phase B experimental and control groups. A t-test applied to the groups' test scores in reading and mathematics indicate that there was no difference in experimental and control group achievement. This result does not support the findings from the analysis of Phase A Primary 2 test scores. The experimental group from Phase A achieved at a significantly higher level in reading and mathematics than the controls.

Table 10

Comparison of Means of Raw Scores in Reading
California Achievement Tests, Level 12, Form C

Phase B Groups, Primary 2

Group	N	Mean	S.D.	t-value
Experimental	33	12.1	5.01	-.47
Control	28	12.7	5.33	

Table 11

Comparison of Means of Raw Scores in Mathematics
California Achievement Tests, Level 12, Form C

Phase B Groups, Primary 2

Group	N	Mean	S.D.	t-value
Experimental	33	51.1	7.83	.65
Control	28	51.1	9.21	

Comparison of Phase B groups' report card marks in language arts and mathematics are reported in Tables 12 and 13. Findings indicated that no difference existed between the groups related to language arts or mathematics. These results also do not support the findings for the Phase A group in Primary 2. The experimental group from Phase A had significantly higher report card marks in both reading and mathematics than the controls in Primary 2.

Table 12

Comparison of Means of Language Arts
Report Card Marks

Phase B Groups, Primary 2

Group	N	Mean	S.D.	t-value
Experimental	33	2.0	2.48	.58
Control	28	1.6	2.37	

Table 13

Comparison of Means of Mathematics
Report Card Marks

Phase B Groups, Primary 2

Group	N	Mean	S.D.	t-value
Experimental	33	1.5	1.03	-.31
Control	28	1.6	1.14	

Attendance data for the Phase B experimental and control groups are reported in Table 14. There was no difference in the attendance of the two groups in Primary 2. This finding supports the results for the Phase A groups in Primary 2. There was no difference in the Primary 2 attendance of either Phase A or B groups.

Table 14

Comparison of Means of Number of
Days Absent in Primary 2

Phase B Groups

Group	N	Mean	S.D.	t-value
Experimental	33	13.8	13.05	-.25
Control	28	14.8	14.73	

Table 15 presents the number and percent of students from the Phase B groups who were absent 27 or more days, where twenty-seven days represents 15% of the official 181-day school year. Based upon the data presented, the same number of students were absent 27 or more days, but a larger percentage of the control group were absent 15% or more of the school year.

Table 15

Number and Percent of Phase B Students Absent 27 or More Days in the 1986-87 School Year

Group	Number of Students in Group	Number of Students Absent 27 Days or More	Percent of Group
Experimental	33	6	18%
Control	28	6	21

Presented in Table 16 are the data for the Phase B groups related to the retention factor. Included are those students who were not promoted to Primary 2 in the 1986-87 school year. The experimental group had three students retained in Primary 1 while the control group had five students retained. One experimental group student was placed in special education.

Table 16

Number and Percent of Phase B Students Retained In Primary 1 in the 1986-87 School Year

	Number of Students in the Group	Number of Students Retained	Percent of Group
Experimental	36	3	8%
Control	33	5	15

Reported in Table 17 are the numbers and percents of students in the Phase B groups who received compensatory education service during the 1986-87 school year. While the experimental group had a larger percentage of students who received no compensatory education service, the percentage selected to receive both Chapter 1 and Article 3 service was much larger for the experimental group than for the control group.

Table 17

Comparison of the Number and Percent of Students in Phase B Receiving Compensatory Education Services in the 1986-87 School Year, Primary 2

Group	N	Chapter 1 Service		Article 3 Service		Art. 3 & Ch. 1 Service		No Comp. Ed. Service	
		f	%	f	%	f	%	f	%
Experimental	33	1	3%	2	6%	10	30%	20	61%
Control	28	5	18	2	7	5	18	16	57

The original sample size of the Phase B groups was 40 students. Presented in Table 18 are the numbers and percents of students not included in the longitudinal study and the reasons. More students from the control group than from the experimental group have been retained. More students from the control group have left the school system.

Table 18

Number and Percent of Sample Student Not Included in the 1986-87 Phase B Groups

Reason	Experimental		Control	
	f	%	f	%
Retained	3	7.5%	6	15%
Left School System	3	7.5	6	15
Special Education	1	2.5		
Total	7	17.5%	12	30%

Findings, Phase C Experimental and Control Groups

Phase C students were enrolled in kindergarten during the 1985-86 school year. Reported in Table 19 and 20 are the 1986-87 Primary 1 test results of the Phase C experimental and control groups. A t-test applied to the groups' test scores in reading and mathematics indicated that there was no difference in the experimental and control group achievement. This finding supports the Primary 1 results of no difference for both the Phase A and Phase B groups.

Table 19

Comparison of Means of Raw Scores in Reading
California Achievement Test, Level 11, Form C

Phase C Groups, Primary 1

Group	N	Mean	S.D.	t-value
Experimental	51	11.6	4.55	-.16
Control	54	11.8	3.93	

Table 20

Comparison of Means of Raw Scores in Mathematics
California Achievement Tests, Level 11, Form C

Phase C Groups, Primary 1

Group	N	Mean	S.D.	t-value
Experimental	51	42.2	9.53	-.81
Control	54	43.4	6.33	

Comparison of report card marks for the Phase C groups are presented in Tables 21 and 22. Results indicate that there were no differences between the groups as measured by report card marks. This finding also supports the Primary 1 report card results of no difference in the Phase A and Phase B groups.

Table 21

Comparison of Means of Language Arts
Report Card Marks

Phase C Groups, Primary 1

Group	N	Mean	S.D.	t-value
Experimental	52	2.5	2.52	.37
Control	54	2.3	2.52	

Table 22

Comparison of Means of Mathematics
Report Card Marks

Phase C Groups, Primary 1

Group	N	Mean	S.D.	t-value
Experimental	53	1.6	1.33	-.21
Control	55	1.7	1.05	

First grade attendance data for the Phase C groups are presented in Table 23. The findings indicate that there was no difference in the attendance of the two groups. This result was also the case for the Phase A and Phase B groups Primary 1 attendance.

Table 23

Comparison of Means of Number of Days Absent in Primary 1

Phase C Groups

Group	N	Mean	S.D.	t-value
Experimental	52	18.3	13.57	1.16
Control	54	15.4	11.67	

Table 24 presents the number and percent of students from the Phase C groups who were absent 27 or more days, where twenty-seven days represents 15% of the official 181-day school year. Based upon the data, more experimental students than control students were absent 15% or more of the school year.

Table 24

Number and Percent of Phase C Students Absent 27 or More Days in the 1986-87 School Year

Group	Number of Students in the Group	Number of Students Absent 27 Days or More	Percent of Group
Experimental	53	10	19%
Control	56	9	16

Presented in Table 25 are the data for the Phase C groups related to the retention factor. One experimental student was retained in kindergarten while no students from the control group were retained.

Table 25

Number and Percent of Phase C Students Retained In Kindergarten in the 1986-87 School Year

Group	Number of Students in the Group	Number of Students Retained	Percent of Group
Experimental	54	1	2%
Control	56	0	

Data related to compensatory education service are presented in Table 26. Experimental students were selected to receive compensatory education services with greater frequency than the controls.

Table 26

Comparison of the Number and Percent of Students in Phase C Receiving Compensatory Education Services in the 1986-87 School Year, Primary 1

Group	N	Chapter 1 Service		Article 3 Service		Art. 3 & Ch. 1 Service		No Comp. Ed. Service	
		f	%	f	%	f	%	f	%
Experimental	53	6	11%	3	6%	17	32%	27	51%
Control	56	5	9	5	9	15	27	31	55

The original sample size of the Phase C groups was 60 students. Presented in Table 27 are the numbers and percents of students not included in the longitudinal study and the reasons. More students from the experimental group were retained and left the school system than from the control group.

Table 27

Number and Percent of Sample Students Not Included in the 1986-87 Phase C Groups

Reason	Experimental f	Experimental %	Control f	Control %
Retained	1	2%		
Left School System	6	10%	4	6%
Total	7	12%	4	6%

Phase A Conclusions

The Phase A experimental group continued in the third grade, as they did in Primary 2, to achieve at a significantly higher level as measured by reading and mathematics achievement tests.

The EDK group also received significantly higher report card marks in mathematics than the traditional kindergarten students. There was no difference in the language arts report card marks of the groups.

The attendance of the experimental group was significantly better than the control's. This was the first year there was a difference in the attendance of the groups.

Fewer students from the experimental group than the control group were retained in Primary 2; the numbers were five and six respectively.

Finally, students from the experimental group were selected for compensatory education with less frequency than the students from the control group. Each year, Primary 1, 2, and Grade 3, a smaller percentage of the experimental group was selected for these additional services.

Phase B Conclusions

The Phase B groups demonstrated no difference in achievement as measured by Primary 2 reading and mathematics achievement tests. The same result was true for the Phase B groups in Primary 1.

There was also no difference in the report card marks of the groups in either mathematics or language arts in Primary 2.

Analysis of attendance data for the experimental and control groups indicated that no difference existed between the groups in the number of days absent.

Fewer students from the experimental group than the control group were retained in Primary 1. The numbers retained were three and five respectively.

Finally, in Primary 2, a smaller percenage of students from the experimental group was selected for compensatory education service. This was also true in Primary 1.

Phase C Conclusions

Phase C students were enrolled in Primary 1 during the 1986-87 school year. There were no differences between the experimental and control groups based upon analysis of test scores, report card marks, or attendance of the two groups.

One student from the experimental group was retained in kindergarten while no students from the control group were retained.

A larger percentage of the experimental group students was selected to receive compensatory education service.

Summary of Conclusions and Recommendations

The experimental and control groups were randomly selected for Phases A, B, C, and D of this study. Each year to date the Extended Day Kindergarten group has scored significantly better than the traditional kindergarten group on at least one area of the California Achievement Tests, Level 10.

The results of Primary 1 achievement tests administered to Phase A, B, and C students have indicated that no differences existed between any of the Extended Day Kindergarten groups and the traditional kindergarten groups. In Primary 1 there also were no differences in the report card marks or attendance of the experimental and control groups of Phase A, B, and C. The Phase A and B Extended Day Kindergarten groups were selected for compensatory education service less frequently than the traditional kindergarten group. This finding was not true for the Phase C Primary 1 students. Finally, for the Phase A and B groups more traditional kindergarten than EDK students were retained in kindergarten. Data for the Phase C groups indicated the opposite result. One EDK student in Phase C was retained in kindergarten while no students from the control group were retained. In summary, the results of analysis of the data of Phase A, B, and C of the study indicate no significant differences existed between Extended Day Kindergarten and traditional kindergarten students in Primary 1.

The results of the analysis of Primary 2 data for the Phase A and B groups provided differing results. The Phase A EDK students scored at a signficiantly higher level on Primary 2 reading and mathematics tests than the non-EDK group. The Phase A EDK participants also had significantly higher report card marks in Primary 2 language arts and mathematics than the traditional kindergarten group. There were no differences in the test scores or report card marks

in Primary 2 for the Phase B students. There were no differences in the attendance of the Phase A or Phase B groups in Primary 2. When looking at retention, the results are inconclusive (or mixed). The EDK group of Phase A had more students retained in Primary 1 while in Phase B more traditional kindergarten students were retained in Primary 1. Finally for both Phase A and Phase B the percentage of students selected for compensatory education was greater for the traditional kindergarten groups.

In 1986-87 third grade data were available for the Phase A groups. The EDK group continued to significantly outperform the control group on reading and mathematics achievement tests administered in Grade 3, as they had in Primary 2. There was no difference in the language arts report card marks of the two groups in Grade 3. The EDK group had significantly higher third grade report card marks in mathematics. Attendance data for the third grade indicated that the EDK students had significantly better attendance. This was the first time in the study that there was a difference in school attendance. Finally, for the Phase A groups in Grade 3, the traditional kindergarten students were selected for compensatory education services more frequently than the Extended Day Kindergarten students.

It is recommended that this study be continued. The results of data analysis at this time indicate that with the exception of Primary 2 and Grade 3 for the Phase A groups there are no differences between the Extended Day Kindergarten and traditional kindergarten groups. It is possible that more significant differences between the groups from Phase B and Phase C may become apparent as the students reach higher elementary grade levels.

Retention should continue to be included in the study. In the Phase A groups, by Grade 3, 24 percent of the EDK sample students had been retained while 26 percent of the traditional sample students were retained. These percentages are high for both groups. In the Phase B groups, by Primary 2, 10 percent of the sample control group had been retained and five percent of the sample EDK group had been retained.

Additionally, more of the traditional kindergarten students have left the school system than the Extended Day Kindergarten students. This factor should also continue to be observed.

Finally, in general the EDK students appear to be selected for compensatory education service with less frequency after kindergarten than the traditional kindergarten students. This trend should also continue to be observed.